

I INCH-POUND I

MIL-C-49285/10

19 October 1989

MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, ONE INDIVIDUALLY SHIELDED
PAIR OF 22 (7 X 30) AWG

I NOTE: NOT FOR AEROSPACE USE. I

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-49285.

Engineering information: (See table I).

TABLE I. Description, electrical.

| Electrical characteristics | Requirements |
|--|--------------------------------------|
| Nominal capacitance between conductors | 34 pF/ft (picofarads/foot) |
| Nominal capacitance between the conductor and the shield with one conductor tied to the shield | 67 pF/ft |
| Continuous working voltage | 200 V rms maximum between conductors |
| Shield dc resistance | 14 ohms/1,000 feet maximum |

TABLE II. Description, physical.

| Components | Construction details |
|--------------------------------|--------------------------------------|
| Number of pairs | One individually shielded |
| Conductor type and wire size | Stranded tinned copper 22 AWG |
| Conductor stranding | 7 X 30 AWG |
| Conductor insulation | Polypropylene |
| Conductor insulation thickness | 0.008 inch nominal thickness |
| Drain wire type and size | Stranded tinned copper 22 AWG |
| Drain wire stranding | 7 X 30 AWG |
| Jacket material | Polyvinyl chloride |
| Jacket thickness | 0.020 inch |
| Finished cable diameter | 0.142 inch maximum outside diameter |
| Cable style (UL) | Not applicable |
| Tensile strength (jacket) | 2,000 pounds per square inch minimum |
| Elongation (jacket) | 150 percent minimum |
| Overall cabling lay lengths | 6.8 twists per foot ± 10 percent |

REQUIREMENTS:

Design and construction: (See table II).

Shield color code. The shield color shall be blue.

Shield location and orientation. The polyester aluminum shield is to be located on the outer circumference of the pair with the aluminum foil side outward. Insulation on the interior of the shield is to be complete with no aluminum available for contact.

Drain wire location. Each drain wire is to be spirally located between the shield and jacket and it is to be in continuous contact with the aluminum surface of the foil shield throughout the cable.

Cable temperature rating. The cable temperature rating shall be -20°C to $+80^{\circ}\text{C}$.

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Shield integrity test.*

| <u>Frequency</u> | <u>Response **</u> |
|------------------|------------------------|
| 100 kHz | 109 dB below reference |
| 500 kHz | 105 dB below reference |
| 1 MHz | 99 dB below reference |
| 5 MHz | 85 dB below reference |
| 10 MHz | 79 dB below reference |
| 15 MHz | 76 dB below reference |
| 20 MHz | 72 dB below reference |
| 25 MHz | 68 dB below reference |
| 30 MHz | 65 dB below reference |

* Any two readings may deviate to a value of 0.9 times the stated limits.

** All values are a minimum numerical value.

Fixture resonance will occur between 40 and 70 MHz.

At 100 MHz: At least 51 dB below reference.

Flammability. The cable shall pass UL 1581 VW-1 flame test requirements.

Crosstalk test limits. Crosstalk testing is not required for this configuration.

Durometer hardness. The cable jacket shall have a "Shore A" hardness of 90 ±5.

Part or Identifying Number (PIN): The PIN shall be M49285/10.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - SH
Air Force - 85

Review activities:
Army - MI
Air Force - 71
DLA - ES, IS

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 6145-1114-10)